

Michael I. Demidenko, PhD

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EDUCATION & TRAINING

July 2022 -	Postdoctoral Fellow , Cognitive Neuroscience Stanford University, <i>Stanford, California</i> Advisor: Dr. Russell Poldrack
April 2022	Doctor of Philosophy , Developmental Psychology University of Michigan, <i>Ann Arbor, Michigan</i> Advisors: Dr. Daniel Keating & Dr. Adriene Beltz
April 2021	Data Scientist Certificate University of Michigan, <i>Ann Arbor, Michigan</i>
August 2019	Master of Science , Psychology University of Michigan, <i>Ann Arbor, Michigan</i>
March 2012	Bachelor of Science , Psychology Portland State University, <i>Portland, Oregon</i>
March 2010	Associate of Arts , Psychology Clackamas Community College, <i>Oregon City, Oregon</i>

AWARDS AND RECOGNITIONS

2022	Outstanding Poster award, International Mind, Brain, and Education Society Conference
2022 – 2025	NIH Ruth L. Kirschstein National Research Service Award (NRSA) Fellowship
2021	Rackham Graduate Student Candidate Research Grant
2020	Coombs Scholarship in Mathematical Psychology
2019 - 2022	NICHHD Developmental Psychology Training Grant Fellowship
2018	Graduate Research Fellowship Program, NSF - <i>Honorable Mention</i>
2018	Institute for Social Research-Rackham Summer Training Grant
2018 - 2021	Rackham Conference Travel Award x3

RESEARCH PUBLICATIONS

Peer-reviewed Publications

1. **Demidenko, M. I.**, Mumford, J. A. Ram, N., & Poldrack, R. A. (2024). A

- multi-sample evaluation of the measurement structure and function of the modified monetary incentive delay task in adolescents. *Developmental Cognitive Neuroscience*. <https://doi.org/10.1016/j.dcn.2023.101337>
2. **Demidenko, M. I.**, Huntley, E. D., Du, L., Estor, C., Si, Y., Wagner, C., Clarke, P., & Keating, D. P. (2023). Individual and Community level Developmental Adversities: Associations with Marijuana and Alcohol Use in Late-Adolescents and Young Adults. *Journal of Youth & Adolescence*.
 3. Constante, K., **Demidenko, M.I.**, Rivas-Drake, D., Huntly, E.D., Keating D.P & Beltz, A.M. (2023). Personalized neural networks underlie ethnic identity exploration and resolution. *Journal of Research on Adolescence*. <http://doi.org/10.1111/jora.12760>
 4. **Demidenko, M. I.**, Kelly, D. P., Hardi, F. A., Ip, K. I., Lee, S., Becker, H., Hong, S., Thijssen, S., Luciana, M., & Keating, D. P. (2022). Mediating effect of pubertal stages on the family environment and neurodevelopment: An open-data replication and multiverse analysis of an ABCD Study®. *Neuroimage: Reports*, 2(4), 100133. <https://doi.org/10.1016/j.nirp.2022.100133>
 5. Beltz, A.M., **Demidenko, M.I.**, & Chaku, N., Klump, K.L., & Joseph, J.E. (2022). Personalized neuroendocrine networks underline mental rotations performance: An illustration in women using intrauterine devices. *Frontiers in Endocrinology*. <http://doi.org/10.3389/fendo.2022.853714>
 6. **Demidenko, M.I.**, Huntley, E.D., Weigard, A.S., Keating, D.P., & Beltz, A.M. (2022). Neural heterogeneity underlying late adolescent motivational processing is linked to individual differences in behavioral sensation seeking. *Journal of Neuroscience Research*. <http://doi.org/10.1002/jnr.25005>
 7. Beltz, A.M., **Demidenko, M.I.**, Wilson, S.J., & Berenbaum, S.A. (2021). Prenatal androgen influences on the brain: A review, critique, and illustration of research on congenital adrenal hyperplasia. *Journal of Neuroscience Research*. <http://doi.org/10.1002/jnr.24900>
 8. **Demidenko, M. I.**, Weigard, A. S., Ganesan, K., Jang, H., Jahn, A. A., Huntley, E., & Keating, D.P. (2021). Interactions Between Methodological and Interindividual Variability: How Monetary Incentive Delay (MID) Task Contrast Maps Vary and Impact Associations with Behavior. *Brain & Behavior*. [Preregistered] <https://doi.org/10.1002/brb3.2093>
 9. **Demidenko, M.I.**, Ip, K.I., Kelly, D., Constante, K., Goetschius, L.G., & Keating, D.P. (2021). Ecological stress, amygdala reactivity, and internalizing problems in preadolescence: is parenting a buffer? *Cortex*. [Registered Report]. <https://doi.org/10.1016/j.cortex.2021.02.032>
 10. **Demidenko, M.I.**, Huntley, E.D., Jahn, A., Thomason, M.E., Monk, C.S., & Keating, D.P. (2020). Cortical and subcortical response to the anticipation of reward in a longitudinal sample of high and average risk-taking adolescents. *Developmental Cognitive Neuroscience*. <https://doi.org/10.1016/j.dcn.2020.100798>
 11. **Demidenko, M.I.**, Huntley, E.D., Martz, M.E., Keating, D.P. (2019).

- Adolescent Health Risk Behaviors: Convergent, Discriminant and Predictive Validity of Self-Report and Cognitive Measures. *Journal of Youth and Adolescence*, 48, 1765-1783. <https://doi.org/10.1007/s10964-019-01057-4>.
12. Sterling, M., Smith, C.L., Dobscha, S., Morasco, B.J., **Demidenko, M.I.**, Meath, T.H.A., & Lovejoy, T.I. (2018). Changes in Pain Intensity Following Discontinuation of Long-Term Opioid Therapy for Chronic Non-Cancer Pain. *Pain*, 2097-2104. <https://doi.org/10.1097/j.pain.0000000000001315>
 13. Lovejoy, T.I., Morasco, B.J., **Demidenko, M.I.**, Meath, T.H.A., & Dobscha, S.K. (2018). Clinician Referrals for Non-opioid Pain Care Following Discontinuation of Long-term Opioid Therapy Differ Based on Reason for Discontinuation. *Journal of General Internal Medicine*. Epub Ahead of Print. <https://doi.org/10.1007/s11606-018-4329-6>
 14. Lovejoy, T.I., Morasco, B.J., **Demidenko, M.I.**, Meath, T.H.A., Frank, J.W., Dobscha, S.K. (2017). Reasons for discontinuation of long-term opioid therapy in patients with and without substance use disorders. *Pain*, 158, 526-534. <https://doi.org/10.1097/j.pain.0000000000000796>
 15. **Demidenko, M.I.**, Dobscha, S.K., Morasco, B.J., Meath, T.H.A., Ilgen, M.A., Lovejoy, T.I. (2017). Suicidal ideation and suicidal self-directed violence following clinician-initiated prescription opioid discontinuation among long-term opioid users. *General Hospital Psychiatry*, 47, 29-35. <https://doi.org/10.1016/j.genhosppsych.2017.04.01>
 16. Nugent, S.M., Dobscha, S.K., Morasco, B.J., **Demidenko, M.I.**, Meath, T.H.A., Frank, J.W., Lovejoy, T.I. (2017). Substance use disorder treatment referral and engagement following clinician-initiated discontinuation of long-term opioid therapy resulting from an aberrant urine drug test. *Journal of General Internal Medicine*, 32, 1076-1082.
 17. Wyse, J.J., Morasco, B.J., Dobscha, S.K., **Demidenko, M.I.**, Meath, T.H.A., Lovejoy, T.I. (2017). Provider Reasons for Discontinuing Long-Term Opioid Therapy Following Aberrant Urine Drug Tests Differ Based on the Type of Substance Identified. *Journal of Opioid Management*. *Journal of General Internal Medicine*, 32, 1076-1082.

Peer-reviewed, In-principle Acceptance

1. **Demidenko, M. I.**, Mumford, J. A., & Poldrack, R. A. (2023). Test-Retest Reliability in Functional Magnetic Resonance Imaging: Impact of Analytical Decisions on Individual and Group Estimates in the Monetary Incentive Delay Task. In principle acceptance of Version 3 by Peer Community in Registered Reports. <https://osf.io/nqgeh>
2. Ip, K.A., Constante, K., Hardi, F., Goetschius, L., **Demidenko, M.I.**, & Gee, D.G. (In-principle acceptance). The protective role of familism on the effects of socioeconomic disadvantages and executive functions in youth. *Child Development*. Invited Stage 1 Registered Report.

Under Review

1. **Demidenko, M. I.**, Mumford, J. A., & Poldrack, R. A. (2024). Test-Retest Reliability in Functional Magnetic Resonance Imaging: Impact of Analytical Decisions on Individual and Group Estimates in the Monetary Incentive Delay Task. Stage 2 Registered Report. <https://doi.org/10.1101/2024.03.19.585755>
2. Ganesan, K., Cao, C.Z., **Demidenko, M. I.**, Jahn, A., Stacey, W.C., Wasade, V.S., & Brang, D. (PNAS). Auditory cortex encodes lipreading information through spatially distributed activity. bioRxiv: <http://doi.org/10.1101/2022.11.11.516209>
3. Kelly, D., Dzera, J., **Demidenko, M.I.**, Weigard, A.S., Foster, K., Beltz, A.M. (Under Review). Pubertal Timing and Daily Adult Alcohol Consumption: Examining Mediating Effects of Alcohol Beliefs by Gender. *International Journal of Behavioral Development*.

BOOK/ENCYCLOPYDIA CHAPTERS

1. Keating, D.P., **Demidenko, M. I.**, & Kelly, D. (2023). Cognitive and Neurocognitive Development in Adolescence and Young Adulthood. In *APA Handbook of Adolescent and Young Adult Development*.
2. Keating, D. P., **Demidenko, M. I.**, & Kelly, D. (2019). Cognitive and Neurocognitive Development in Adolescence In *Reference Module in Neuroscience and Biobehavioral Psychology*, The Netherlands: Elsevier.
3. Diulio, A.R., **Demidenko, M.I.**, Lovejoy, T.I. (2016). Multidisciplinary pain clinics. In: Fellers JC, Matthews AM, eds. Treating comorbid opioid use disorder and dependence in chronic pain. New York, NY: Springer.
4. Gill, S., **Demidenko, M.I.**, Lovejoy, T.I. (2016). Hepatitis C and cognitive functioning. In: Gellman M, Turner JR, eds. Encyclopedia of Behavioral Medicine, 2nd Edition. New York, NY: Springer.
5. Gill, S., **Demidenko, M.I.**, Lovejoy, T.I. (2016). HIV and cognitive functioning. In: Gellman M, Turner JR, eds. Encyclopedia of Behavioral Medicine, 2nd Edition. New York, NY: Springer.

PUBLISHED ABSTRACTS

1. Lovejoy, T.I., **Demidenko, M.I.**, Morasco, B.J., Meath, T.H.A., Dobscha, S.K. (2017). Suicidal ideation and behaviors following clinician-initiated prescription opioid discontinuation among long-term opioid users. *Journal of Pain*, 18, S36.
2. Lovejoy, T.I., Morasco, B.J., **Demidenko, M.I.**, Meath, T.H.A., Frank, J.W., Dobscha, S.K. (2016). Reasons for discontinuation of long-term opioid therapy in patients with and without substance use disorders. *Journal of Pain*, 17, S87. <https://doi.org/10.1016/j.jpain.2016.01.430>
3. Fonareva, I., Demidenko, M., & Oken, B. (2012). Evaluating the role of expectancy during stress-reducing aromatherapy in healthy older adults. *BMC*

CONFERENCE PRESENTATIONS

Symposium

1. Beyond the mean teen: Illuminating adolescence with personalized models of time series data. (2020). Symposium Accepted to the 2020 Society for Research on Adolescence Biennial Meeting, San Diego, California. *Conference Cancelled: COVID-19*
2. Keating, D.P.*, Huntley, E.D., & **Demidenko, M.I.** Adolescent Risk Behavior Typology: Neurodevelopmental, Psychosocial, and Behavioral Mechanisms. Symposium Submitted to the 2020 American Academy of Child & Adolescent Psychiatry Annual Meeting, San Francisco, California.

Posters

1. **Demidenko, M.I.**, Mumford, J.A., Ram, N., & Poldrack, R.A. (2023, September). A multi-sample evaluation of the measurement structure and function of the modified monetary incentive delay task in adolescents. Poster Presented at 2023 FLUX: The Society for Developmental Cognitive Neuroscience, Santa Rosa, California.
2. Keating, D.P., **Demidenko, M.I.**, Huntley, E.D. (2023, March). Developmental Adversity at the Individual and Community Level: Longitudinal Associations with Substance Use in Adolescents. Poster Accepted to the 2023 Society for Research on Adolescence Biennial Meeting, Salt Lake City, Utah.
3. **Demidenko, M. I.**, Kelly, D. P., Hardi, F., Ip, K. I., Lee, S., Becker, H., Hong, S., Thijssen, S., Luciana, M., & Keating, D. P. (2022, June). Mediating effect of pubertal stages on the family environment and neurodevelopment: How the conceptual replication and multiverse analysis of an ABCD study can better inform adolescent educational policy. Poster presentation at the 7th Biennial International Mind, Brain and Education Society Conference, Montréal, QC [*Outstanding Poster Award*]
4. Dzera, J., Kelly, D., Weigard, A., **Demidenko, M.I.**, Stone, S., Foster, K.T., & Beltz, A.M. Persisting effects of pubertal timing on alcohol expectancies and use in adulthood. Poster Accepted to the 2020 Association for Psychological Science Annual Meeting, Chicago, Illinois.
5. **Demidenko, M.I.**, Huntley, E.D., Jahn, A., Monk, C.S., Thomason, M., & Keating, D.P. Differences in Cortical and Subcortical Activation to Reward Anticipation in High- & Average-Risk Taking Adolescents. Poster Accepted to the 2020 Society for Research on Adolescence Biennial Meeting, San Diego, California. *Conference Cancelled: COVID-19*
6. Nasi, H.*, Huntley, E.D., **Demidenko, M.I.**, Wagner, C., Churchill, S., & Keating, D.P. The Effect of Insufficient Sleep on Neural Reward Activation in

- Adolescents. Poster Accepted to the 2020 Society for Research on Adolescence Biennial Meeting, San Diego, California. *Conference Cancelled: COVID-19*.
7. **Demidenko, M.I.**, Huntley, E.D., & Keating, D.P. (2019, October). Effects of Early Life Adversity on Alcohol and Marijuana use in a Longitudinal Sample of Adolescents. Poster Presented at the 2019 Society for Study of Human Development Conference in Portland, Oregon. [*Presenter*]
 8. Wagner, C.*, **Demidenko, M.I.**, Huntley, E.D., & Keating, D.P. (2019, October). Effects of Early Life Adversity on Sexual Behaviors in Adolescents over Transitional Period into Adulthood. Accepted Poster 2019 Society for the Study of Emerging Adulthood Conference in Toronto, Canada.
 9. **Demidenko, M.I.**, Huntley, E.D., Hatfield, J.R.B., & Keating, D.P. (2019, March). Nucleus Accumbens Activation Differs Across Sensation-seeking and Age. Poster Presented at the 2019 Society for Research on Child Development Biennial Meeting, Baltimore, MD. [*Presenter*]
 10. **Demidenko, M.I.**, Huntley, E.D., Hatfield, J.R.B., & Keating, D.P. (2018, April). Group Differences in Performance on Balloon Analogue Risk Task in Adolescents Using Alcohol and/or Marijuana in last 12-months. Poster presented at the 2018 Society for Research on Adolescence Biennial Meeting, Minneapolis, MN. [*Presenter*]
 11. **Demidenko, M.I.**, Huntley, E.D., Hatfield, J.R.B., & Keating, D.P. (2018, April). Group Differences in Performance on Balloon Analogue Risk Task in Adolescent Binge Drinkers and/or Marijuana Users in last 30-days. Poster presented at the 2018 Society for Research on Adolescence Biennial Meeting, Minneapolis, MN. [*Presenter*]
 12. Lovejoy, T.I., Morasco, B.J., Frank, J.W., **Demidenko, M.I.**, Meath, T.H.A., Dobscha, S.K. *Reasons for Discontinuation of Long-Term Opioid Therapy for Patients with and Without Substance Use Disorders*. Poster presented at 2016 OHSU Research Week, Portland, Oregon May 2.
 13. Lovejoy, T.I., **Demidenko, M.I.** *A Pilot Study of Group Acceptance and Commitment Therapy for Chronic Pain in Patients with Comorbid Substance Use Disorders*. Poster presented at the 2015 OHSU Research Week, Portland, Oregon May 5. [*Presenter*]
 14. Lovejoy, T.I., Tee, M., Turk, D., Dobscha, S.K., Hauser, P., **Demidenko, M.I.**, Morasco, B.J. *Pain anxiety mediates the relationship between depression and pain in patients with hepatitis C*. Poster presented at the 2014 OHSU Pain Day, Portland, Oregon April 11.
 15. Fonareva, I., **Demidenko, M.I.**, Oken, B.S. *Evaluating the Role of Expectancy during Stress-Reducing Aromatherapy in Healthy Older Adults*. Poster presentation at the 2012 International Research Congress on Integrative Medicine and Health, Portland, Oregon May.

* Mentee

OPEN-SOURCE SOFTWARE AND ANALYTIC CODE

Software

1. **Demidenko, M. I., & Poldrack, R. A.** (2023). PyReliMRI: An Open-source Python tool for Estimates of Reliability in MRI Data [Computer software]. <https://zenodo.org/record/8387971>

Code

2. **Demidenko, M. I., Mumford, J. A., Ram, N., & Poldrack, R. A.** (2023). Code for a Multi-Sample Evaluation of the Measurement Structure and Function of the Modified Monetary Incentive Delay Task in Adolescents [Computer software]. <https://zenodo.org/records/10211538>
3. **Demidenko, M. I.** (2022). Associated Code for an open-data replication and multiverse analysis of an ABCD Study®: Mediating effect of pubertal stages on the family environment and neurodevelopment. [Computer software]. Zenodo. <https://doi.org/10.5281/zenodo.6819653>

GRANT FUNDING

ACTIVE

F32 DA055334-01A1 (PI: Demidenko)	07/01/22 – 06/30/25
National Institute on Drug Abuse (NIDA)	\$213,046.00
Improving the Measurement of Brain-Behavior Associations in Adolescence	

The major goals of this project are to integrate three adolescent functional magnetic resonance imaging (fMRI) samples to evaluate the effects of analytic flexibility in fMRI, how analytic flexibility affects the construct validity of fMRI tasks and the use of advanced data analysis methods to understand brain-behavior relationships across adolescent samples.

PENDING

NA.

SELECTED PROFESSIONAL EXPERIENCE

2022 -	NIDA Research Fellow Department of Psychology Stanford University, <i>Stanford, CA</i> PI: Dr. Russell Poldrack
2020 –2022	Mentor, Students Tackling Advanced Research (STAR) Scholars

Department of Psychology
University of Michigan, *Ann Arbor, MI*

- 2019 – 2022 Co-lead, Psychology Graduate Student Research Group
Department of Psychology
University of Michigan, *Ann Arbor, MI*
- 2017 – 2022 Graduate Researcher
Adolescent Health Risk Behavior Lab
Institute for Social Research,
University of Michigan, *Ann Arbor, MI*
PI: Dr. Daniel Keating
- 2018 – 2022 Graduate Researcher
Methods, Sex Differences and Development Lab
Department of Psychology
University of Michigan, *Ann Arbor, MI*
PI: Dr. Adriene Beltz
- 2013 – 2017 Research Coordinator
Health Service Research & Development
VA Portland Healthcare System, *Portland, OR*
PI: Drs. Travis Lovejoy & Steven Dobscha

TEACHING & MENTORSHIP EXPERIENCE

Instructor

- 2022 Co-lead Workshop, An Introduction to General Linear Model in R & JASP
- 2022 Guest Lecture, Developmental Cognitive Neuroscience
- 2020 Guest Lecture, Psychology of Adolescence
- 2020 Graduate Student Instructor, Intro to Psychology
- 2019 Guest Lecture, Advanced Research in Adolescent Psychology
- 2019 Graduate Student Instructor, Psychology of Adolescence
- 2018 Graduate Student Instructor, Intro to Developmental Psychology

Mentorship

Christine Wager

University of Michigan, Biopsychology, Cognitive & Neuroscience Major

Hani Nasr

University of Michigan, Psychology Major

Caitlin Estor

University of Michigan, Statistics Major

Asavari Anavathi

INVITED TALKS

2019	Neuroimaging Imaging Initiative, University of Michigan Topic: <i>Neural Differences of Reward in Risk-Taking Adolescents</i>
2023	Department of Psychology Colloquium Lightning Talk, Stanford University Topic: <i>A Multi-sample Evaluation of the Measurement Structure and Function of the Modified Monetary Incentive Delay Task in Adolescents</i>

SERVICE

University

2021 – 2022	Graduate Admissions Committee, Developmental Psychology
2020 – 2021	Psychology Student Academic Affairs Committee
2018 – 2020	Developmental Brownbag Committee
2017 – 2018	Social Committee, Developmental Psychology Area

Ad-hoc reviewer:

Panels [1]: *Society for Research on Adolescence*
Journals [12]: *Cortex* | *Journal of Neuroscience Research* | *Network Neuroscience* | *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* | *Journal of Research on Adolescence* (3x) | *Journal of Adolescent Health* (3x) | *Nature Communications* | *Development and Psychopathology* | *Developmental Science* | *Developmental Cognitive Neuroscience* | *Nature Mental Health* | *Imaging Neuroscience*

Editorial Board:

Journal of Youth & Adolescence

STATISTICS AND SOFTWARE

Statistics Pedagogical Tool

R Shiny App Development (Under development):

<https://michaeldemidenko.shinyapps.io/SimShinyBasicStats>

Statistical Training

Linear/Logistic Regression | Structural Equation Modeling | Multi-level Modeling | Univariate fMRI | Connectivity fMRI, Group Iterative Multiple Model Estimation (GIMME) | Exposure to Dimensionality Reduction & Predictive Modeling

Software Training

Statistics: Developed Python library: [PyReliMRI](#) |

Coding: R-Studio, Mplus, JASP, SPSS, Python, Excel
MRI: Linux/Bash | R-Studio | Github | Python
Survey: FSL | Nilearn | Exposure to AFNI, MRtrix, SPM
REDCap, QUALTRICS

MEMBERSHIPS

Organization for Human Brain Mapping; Flux, Developmental Cognitive Neuroscience

LAST UPDATED MARCH 22ND, 2024